

CLAIMS

What is claimed is:

Sub AI

1. A matching network hybrid electro-magnetic compatibility absorber to provide improved radio frequency absorbing performance in a frequency range of approximately 20 MHz to approximately 500 MHz, comprising:

- a big element;
- a small element that is located beneath the big element;
- the big element comprises a big element surface;
- the small element comprises a small element surface;
- a big element coating that covers a predetermined portion of the big element surface; and
- a small element coating that covers a predetermined portion of the small element surface.

2. The matching network hybrid electro-magnetic compatibility absorber of claim 1, wherein the matching network hybrid electro-magnetic compatibility absorber comprises a substantially pyramid-like shape;

- the predetermined portion of the big element surface comprises less than an entirety of the big element surface; and
- the predetermined portion of the small element surface comprises less than an entirety of the small element surface.

3. The matching network hybrid electro-magnetic compatibility absorber of claim 1, wherein at least one of the big element coating and the small element coating comprises a substantially tear drop shape.

1 4. The matching network hybrid electro-magnetic compatibility absorber of claim 1,
2 wherein at least one of the big element coating and the small element coating comprises a
3 predetermined thickness.

1 5. The matching network hybrid electro-magnetic compatibility absorber of claim 1,
2 wherein the big element and the small element are separated by a predetermined distance.

1 6. The matching network hybrid electro-magnetic compatibility absorber of claim 1,
2 wherein the big element comprises at least two surfaces; and
3 a distance between the at least two surfaces comprises a predetermined thickness.

1 7. The matching network hybrid electro-magnetic compatibility absorber of claim 1,
2 wherein the big element coating comprises a first material; and
3 the small element coating comprises a second material.

1 8. The matching network hybrid electro-magnetic compatibility absorber of claim 1,
2 further comprising at least one additional big element coating that covers at least one additional
3 predetermined portion of the big element surface, the at least one additional predetermined
4 portion of the big element surface being less than an entirety of the big element surface.

1 9. A matching network hybrid electro-magnetic compatibility absorber to provide
2 improved radio frequency absorbing performance in a frequency range of approximately 20 MHz
3 to approximately 500 MHz, comprising:

4 a layer comprising a surface; and

5 a coating that covers a predetermined portion of the surface.

1 10. The matching network hybrid electro-magnetic compatibility absorber of claim 9,
2 wherein the coating comprises a predetermined shape.

1 11. The matching network hybrid electro-magnetic compatibility absorber of claim 9,
2 wherein the layer comprises at least one additional surface; and
3 at least one additional coating covers a predetermined portion of the at least one
4 additional surface, the predetermined portion of the at least one additional surface comprises less
5 than an entirety of the least one additional surface.

1 12. The matching network hybrid electro-magnetic compatibility absorber of claim 9,
2 further comprising at least one additional layer, the at least one additional layer comprises at least
3 one additional surface; and
4 at least one additional coating covers a predetermined portion of the at least one
5 additional surface, the predetermined portion of the at least one additional surface comprises less
6 than an entirety of the least one additional surface.

1 13. The matching network hybrid electro-magnetic compatibility absorber of claim 9,
2 further comprising at least two elements; and
3 at least one of the two elements comprises the layer.

1 14. The matching network hybrid electro-magnetic compatibility absorber of claim 9,
2 wherein the layer comprises at least one additional surface; and
3 a distance between the surface and the at least one additional surface comprises a
4 predetermined thickness.

1 15. The matching network hybrid electro-magnetic compatibility absorber of claim 9,
2 wherein the coating comprises a predetermined thickness; and
3 the predetermined portion of the surface comprises less than an entirety of the surface.

1 16. A matching network hybrid electro-magnetic compatibility absorber, comprising:
2 an absorber comprising a surface having a coating;
3 the coating comprising at least one of a coating type, a coating shape, a coating thickness,
4 and a coating placement; and
5 at least one of the coating type, the coating shape, the coating thickness, and the coating
6 placement is varied as a design parameter to permit absorption of radio frequency energy in a
7 frequency range extending from approximately 500 MHz to approximately 40 GHz.

1 17. The matching network hybrid electro-magnetic compatibility absorber of claim
2 16, wherein the coating shape comprises a substantially tear drop shape.

1 18. The matching network hybrid electro-magnetic compatibility absorber of claim
2 16, wherein the coating covers an entirety of the surface.

1 19. The matching network hybrid electro-magnetic compatibility absorber of claim
2 16, wherein the coating covers less than an entirety of the surface.

1 20. The matching network hybrid electro-magnetic compatibility absorber of claim
2 16, wherein the surface comprises at least one additional coating that comprises at least one of at
3 least one additional coating type, at least one additional coating shape, at least one additional
4 coating thickness, and at least one additional coating placement.